What is sikoba?

sikoba

home of the IOU economy

Sikoba is building a **decentralised credit platform** based on **peer-to-peer IOUs** and **blockchain technology**.

This document provides an explanation of the basic features of the sikoba platform.

For more information, visit our **website**, read our **medium** posts or follow us on **twitter**.

sikoba is an IOU ('I owe you') platform which automates the creation, tracking and finally clearing of credit between its users. By using a mechanism called *credit conversion*, users can also transact beyond their immediate network of trust.

"There is a lot you can do without money, as long as you have credit"

The main advantage of sikoba is that less money is needed overall, thus reducing communities' dependence on money. As people and companies re-learn the use of credit, this can unlock hidden financial resources and helps boost local economies, especially in developing countries.

What we are building is not new. For most of history, local trade was done on credit. People knew each other, and when they transacted they generally did it on credit, very little actual money changed hands. At regular periods, such as at village fairs and markets, debits and credits were tallied and cleared. The sikoba platform is designed to enhance, expand and automate these age-old mechanisms.

Some vocabulary to start with:

In the context of sikoba, the word **credit** does refers to a debt, **an IOU** not a loan.

Participants who know and trust each other in real life grant each other **credit lines** within the system.

Users can then 'pay' each other with IOUs even in the absence of (fiat) money. These peer-to-peer credit relationships are governed by contracts with specific conditions, fee structures, and repayment rules.

The **credit conversion** mechanism automatically identifies trusted intermediaries, allowing users to transact beyond their immediate network of trust.

Sikoba's **basic rule** is that a user will only ever have credit exposure to those he has expressly chosen to trust.

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Mutual (two-way) Credit

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Maria and Abi live in the same community. Maria has an artisanal bakery and Abi has a beachview cafe. Abi likes to buy some of Maria's cakes to serve in his cafe and Maria likes to have lunch or coffee with friends once or twice a week at Abi's cafe.
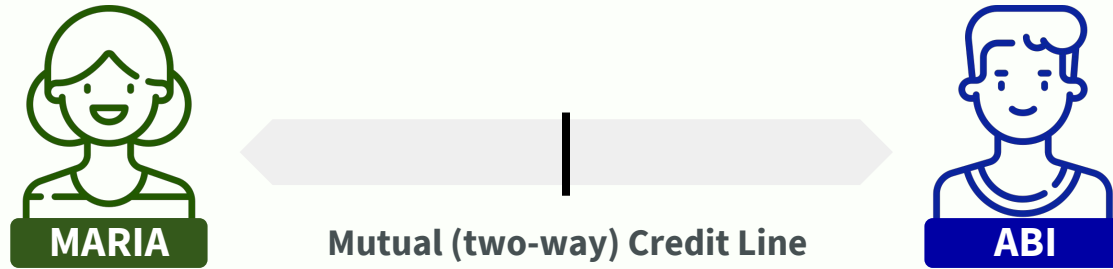
MARIA

ABI

Maria and Abi know and trust each other. As they both use sikoba, they decide to grant each other a **_credit line_**.

MARIA — **Mutual (two-way) Credit Line** — **ABI**

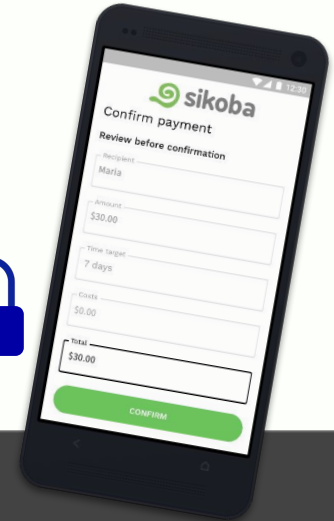Now, Maria and Abi can buy from each other without needing to use money. Let's see how this works.

Abi wants to buy $30 of cakes from Maria's bakery.

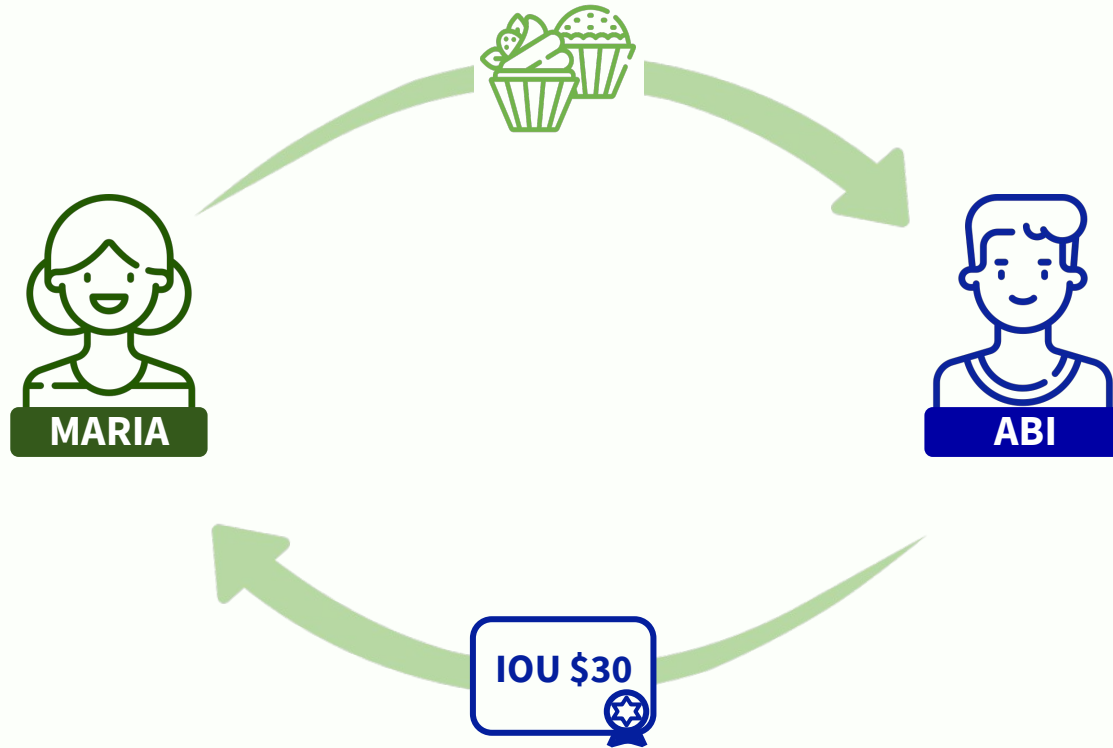Using sikoba's app, Maria initiates the payment on her mobile device, which generates a QR code on her screen.

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Confirm payment

Total
$30.00

CONFIRM

MARIA

Abi scans the QR code which shows him the payment details, then clicks 'Accept'

ABI

sikoba
Confirm payment
Review before confirmation

Recipient
Maria

Amount
$30.00

Time target
7 days

Costs
$0.00

Total
$30.00

CONFIRM

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Goods are exchanged not for money, but for an IOU ('I owe you').

MARIA

ABI

IOU $30

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As a result, an IOU from Abi to Maria is created in the sikoba system. Abi now owes Maria $30. But no money has changed hands.
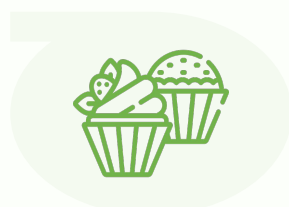

MARIA

$30

ABI

A few days later, Maria spends $35 in Abi's cafe. This time it's Abi who initiates the transaction on his mobile, and Maria scans the QR code and confirms the purchase.

MARIA

ABI

IOU $35
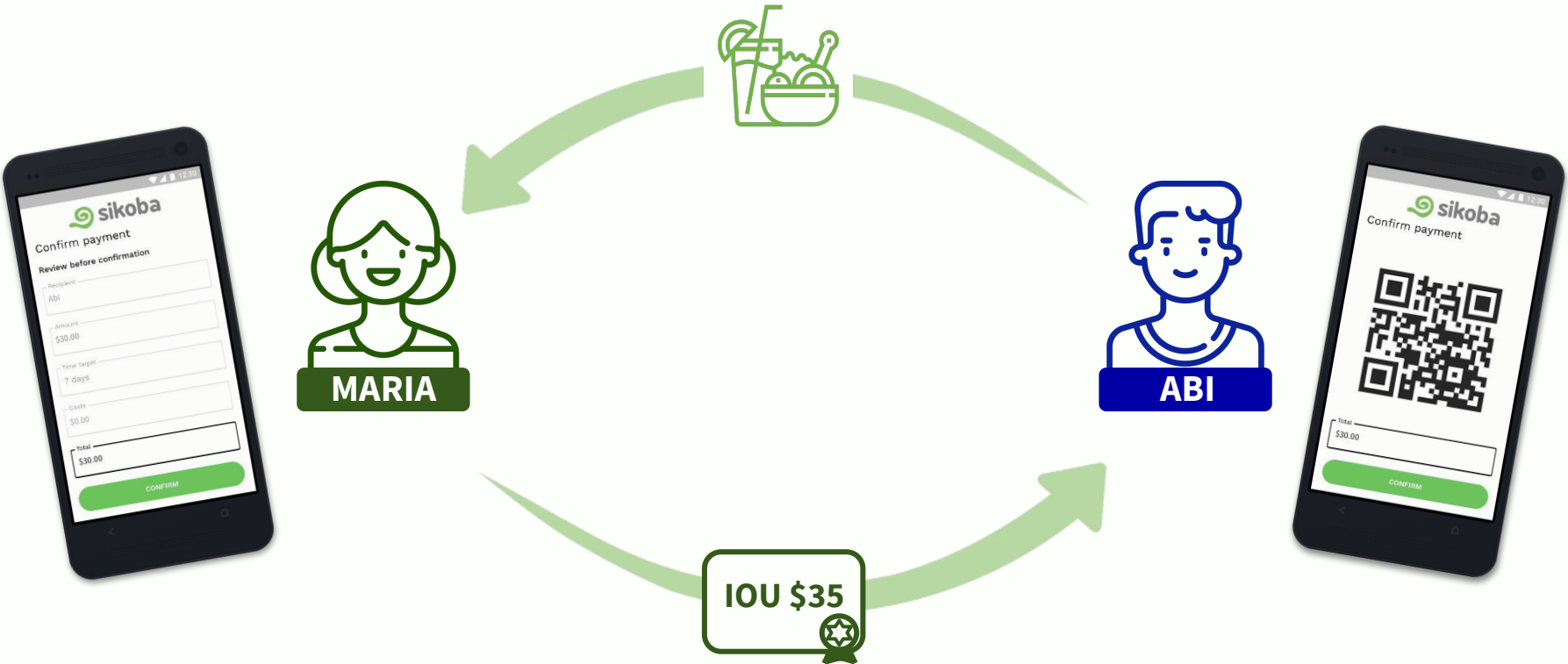
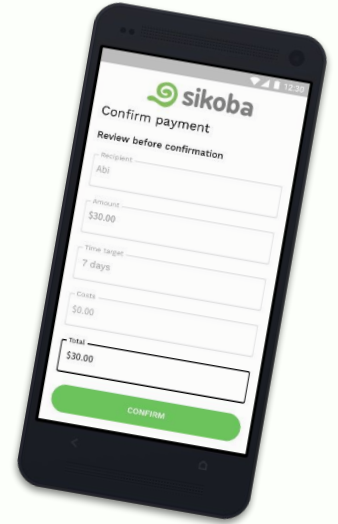Remember that, before visiting Abi's café, Abi owed Maria $30:

MARIA ← **$30** **ABI**

After Maria spends $35 at Abi's café, the overall result is that Maria now owes Abi $5.

MARIA **$5** → **ABI**

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Maria and Abi have decided that IOUs must be settled within 15 days. Therefore, 15 days later Maria goes to Abi and pays him $5 in cash, settling the debt. Abi acknowledges receipt using his mobile app.

This is the only time money is used in the process.

MARIA

ABI

$5

sikoba
Confirm payment
Review before confirmation
Recipient
Abi
Amount
$30.00
Time target
7 days
Costs
$0.00
Total
$30.00
CONFIRM

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The result is that there are no more IOUs between Maria and Abi and the credit line remains, ready for use when they want it.

Only $5 in money was needed for $65 worth of transactions, reducing Maria and Abi's dependency on money.

MARIA

ABI

$5

We've just seen how mutual credit lines work in Sikoba.

In reality, Maria and Abi will probably want to set some limits to the exposure they are prepared to accept. For example, Abi may accept Maria's credit up to $100, while Maria trusts Abi up to $150:
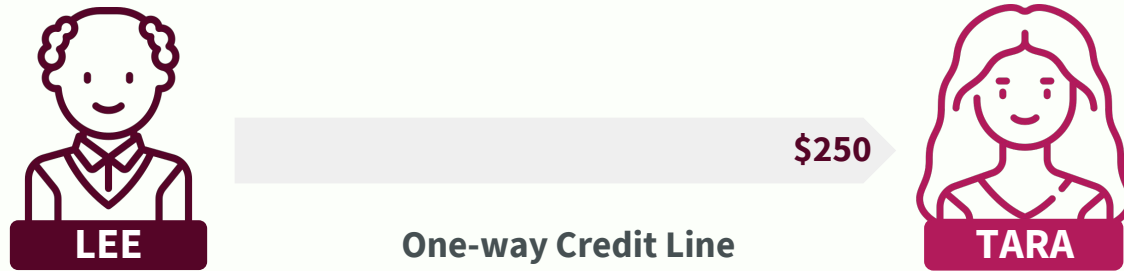

MARIA $150 | $100 **ABI**
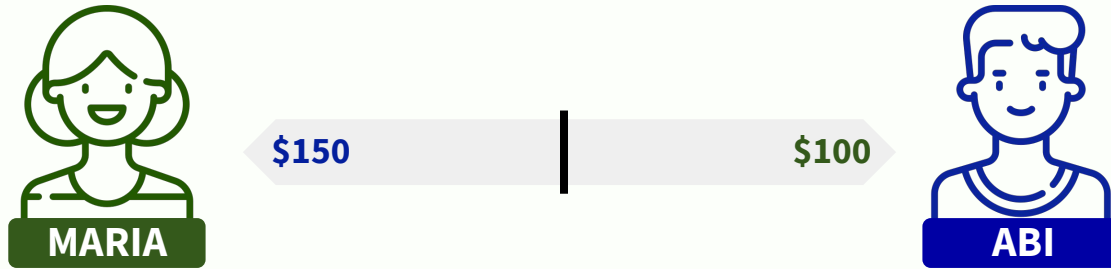
One-way Credit Relations

Credit relations are not always mutual.

Lee and Tara also live in the same community. Lee owns a general store and is well known by the local community. Tara has just started a furniture business.

$250

One-way Credit Line

LEE

TARA

Tara trusts Lee and grants him a credit line with a credit limit of $250.
Lee does not yet trust Tara, they therefore does not grant Tara a credit line.

Lee buys a table from Tara for $150 using his sikoba credit-line. This results in an IOU for $150 to Tara.

Note that, perhaps if Tara had required cash payment from Lee, Lee may have postponed the purchase of the table, because cash is scarce. By allowing Lee to use sikoba, Tara has boosted her turnover.

A few days later, Tara buys $60 of items from Lee's store. ***Tara is able to use sikoba, instead of money, because Lee has an outstanding IOU towards her.*** The result is that Lee's IOU is reduced from $150 to $90.

Even though Lee does not yet trust Tara, she is able to use sikoba to buy from Lee without money as long as Lee has an outstanding IOU to her.

LEE $90 $250   TARA
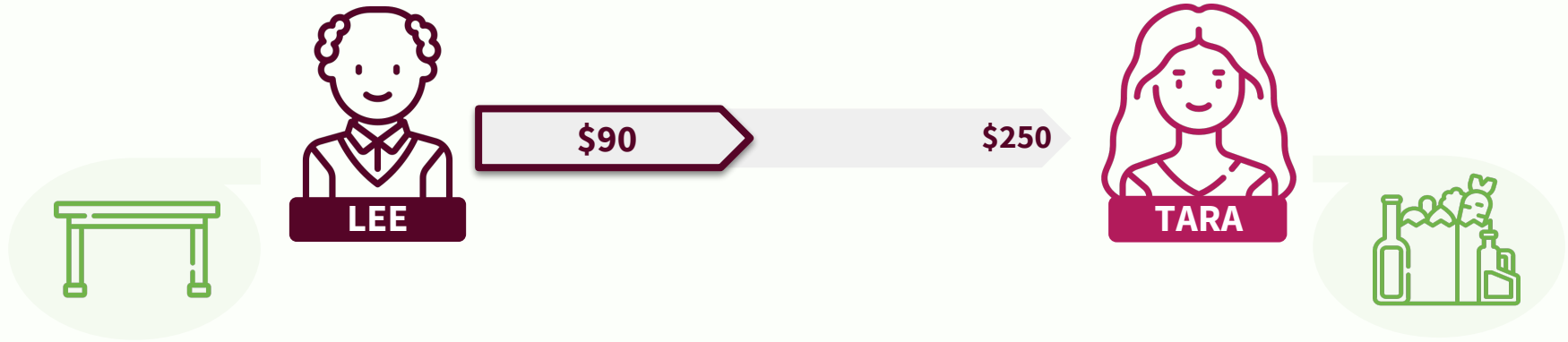
By granting a credit line to Lee, Tara was able to purchase from Lee which she may not have been able to do otherwise.

Credit Conversion:
## Transacting Beyond Your Circle of Trust

Maria and Lee also know and trust each other, so they set up credit lines for each other in sikoba. In addition, Lee has the option to allow Maria to transact with all or part of his network.

Let's say that Lee chooses to allow credit conversion for Maria to transact with all of his network.

Note that Lee's choice is made beforehand. He will not need to be involved at the time Maria makes use of this option.

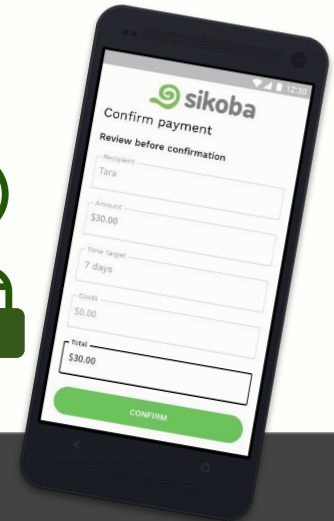MARIA

$150 $100

ABI

$200

$200

LEE $90 $250   TARA
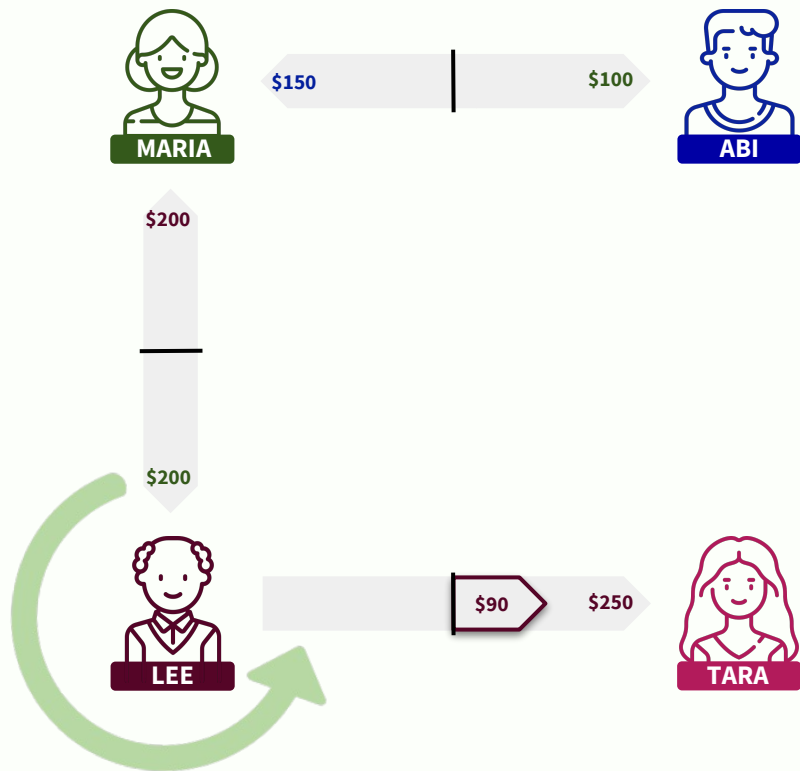
Maria visits Tara's shop and wants to buy two chairs for $50. The two do not know each other, but Maria sees the sign in Tara's shop showing that she uses sikoba, so they try to use sikoba.

Tara initiates a payment request on her mobile device, which generates a QR code on her screen.
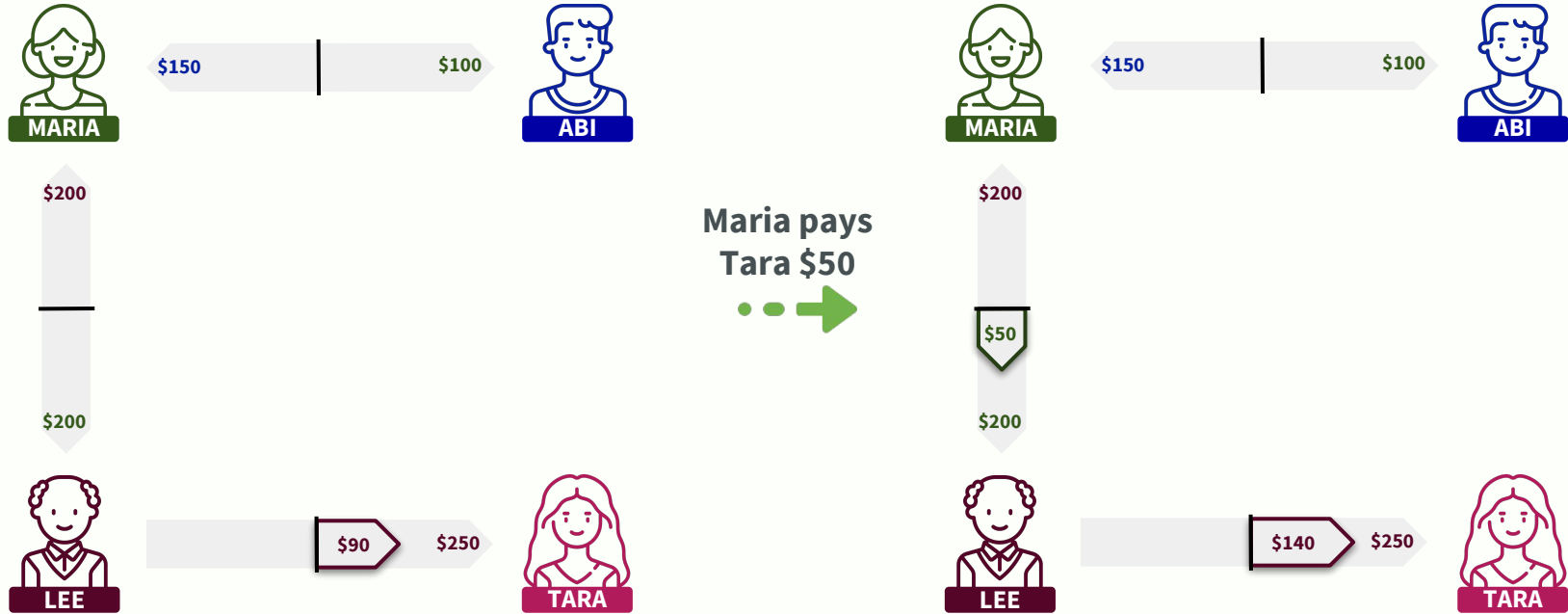
TARA

Maria scans the QR code to check if a payment is possible. In this case, she finds that yes, through Lee, a payment is possible. She confirm the payment.

MARIA

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The reason that a payment is possible is because Lee has enabled credit conversion for Maria, and there is sufficient credit capacity available. However, neither Maria nor Tara need to be aware of this. As to Lee, he is not involved at the time of the transaction.

As a result of Maria's purchase, Maria now owes Lee $50, while Lee's IOU towards Tara has increased by $50, from $90 to $140.

We have seen that using credit conversion, two sikoba users who do not know each other (let alone trust each other) are able to transact. This was made possible because Lee has, beforehand, agreed to credit conversion for Maria. Remember that Tara does not trust Maria, but she trusts Lee, and because Lee trusts Maria the transaction is possible.

We call the ordered sequence Maria > Lee > Tara a **payment path**:

Later on, we will see that:
- More complex payment paths are possible
- Maria may have to pay Lee a fee, which we will call credit conversion fee
- When several payment paths exist, sikoba will automatically choose the least expensive one
- … and there may be interest rates involved
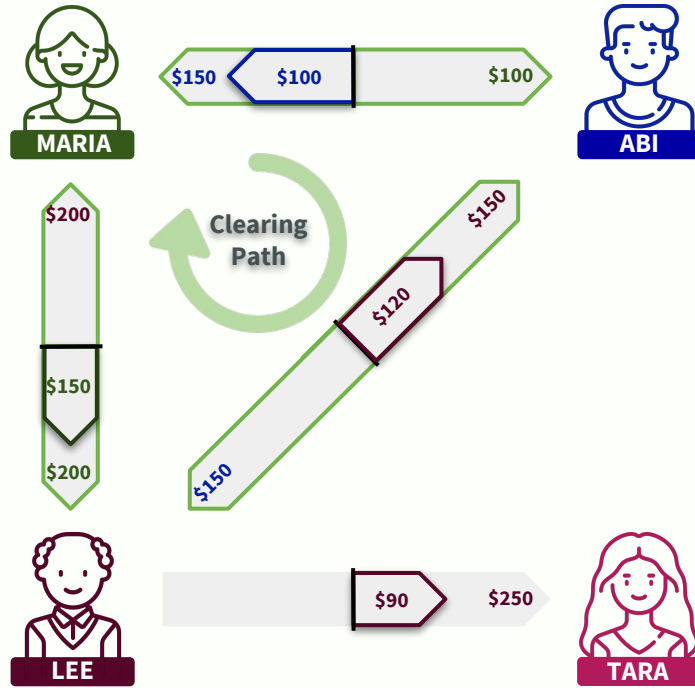
But first, let's have a look at clearing.

Clearing

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Consider the following situation, resulting from several transactions, where Abi and Lee have also granted each other credit lines.

The sum of outstanding IOUs is $100 + $150 + $120 + $90 = $460. But we see that there is a circular *clearing path* between Maria, Lee and Abi.

Let's performs a *clearing* for $100 along this clearing path. The result is that Maria now owes Lee only $50, Lee owes Abi only $20, while there is no outstanding IOU between Maria and Abi any more. **The sum of outstanding IOU's has been reduced to $50 + $20 + $90 = $160.**
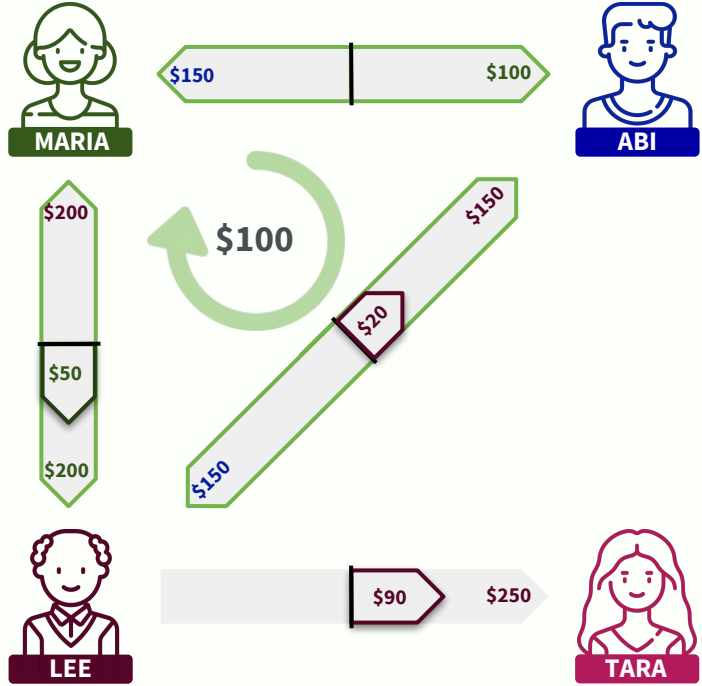
What we've seen in the last two slides was a 'naive' clearing. It did reduce the amount of debt considerably, from $460 to $160, but we can do better! By applying an additional $20 clearing cycle, the amount of outstanding debt can be reduced further, to $20 + $30 + $90 = $140. This is the optimal clearing that sikoba would apply.

Let's once again compare the initial and final situations. **While overall debt was reduced significantly, each user's net position remains the same.** For example, before clearing, Maria owed $150 and was owed $100, so had net debt of $50. After clearing, Maria's net debt is unchanged at $20 + $30 = $50. Similarly Abi's net debt of $20 and Lee's net credit of $30 are also unchanged.
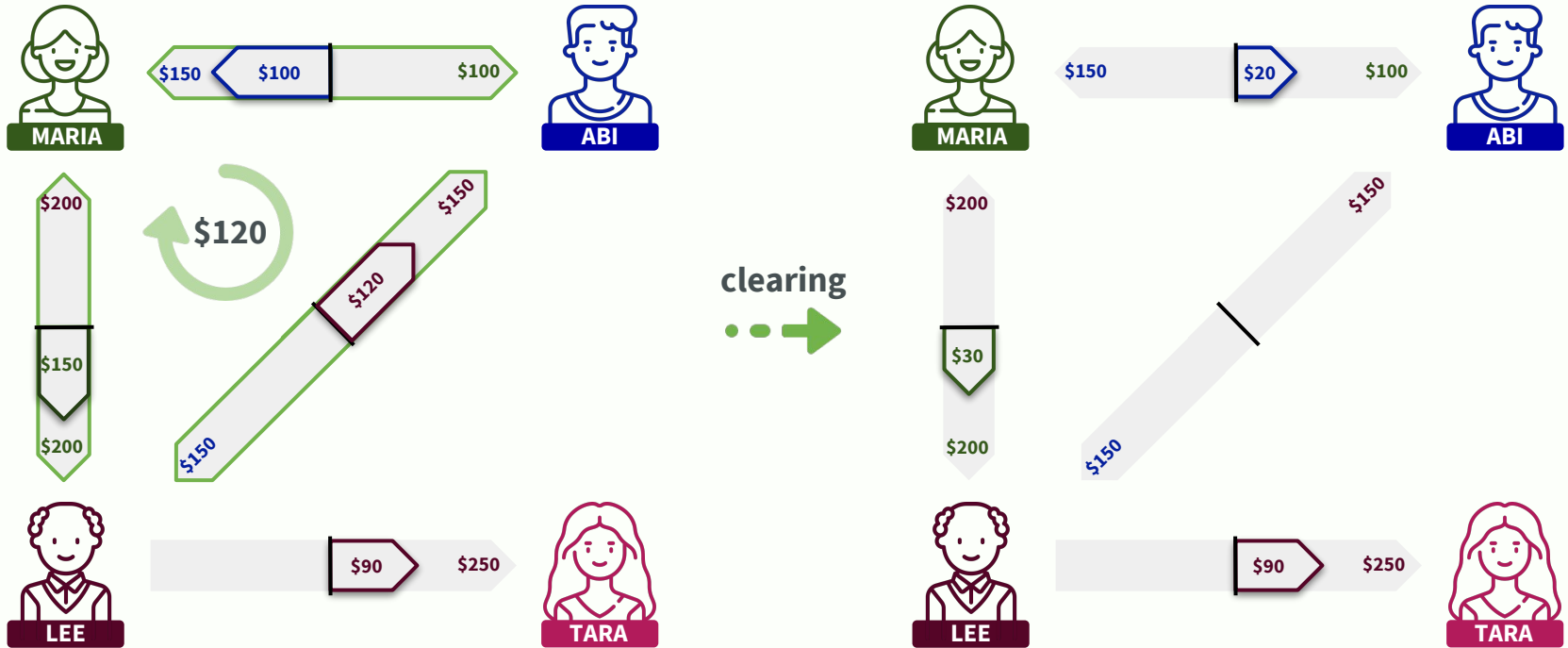

clearing

Impact of Network Growth

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As new credit lines are added to the system, additional clearing can occur. Sikoba's platform continuously and automatically finds clearing paths as new credit lines are added.

Clearing becomes possible
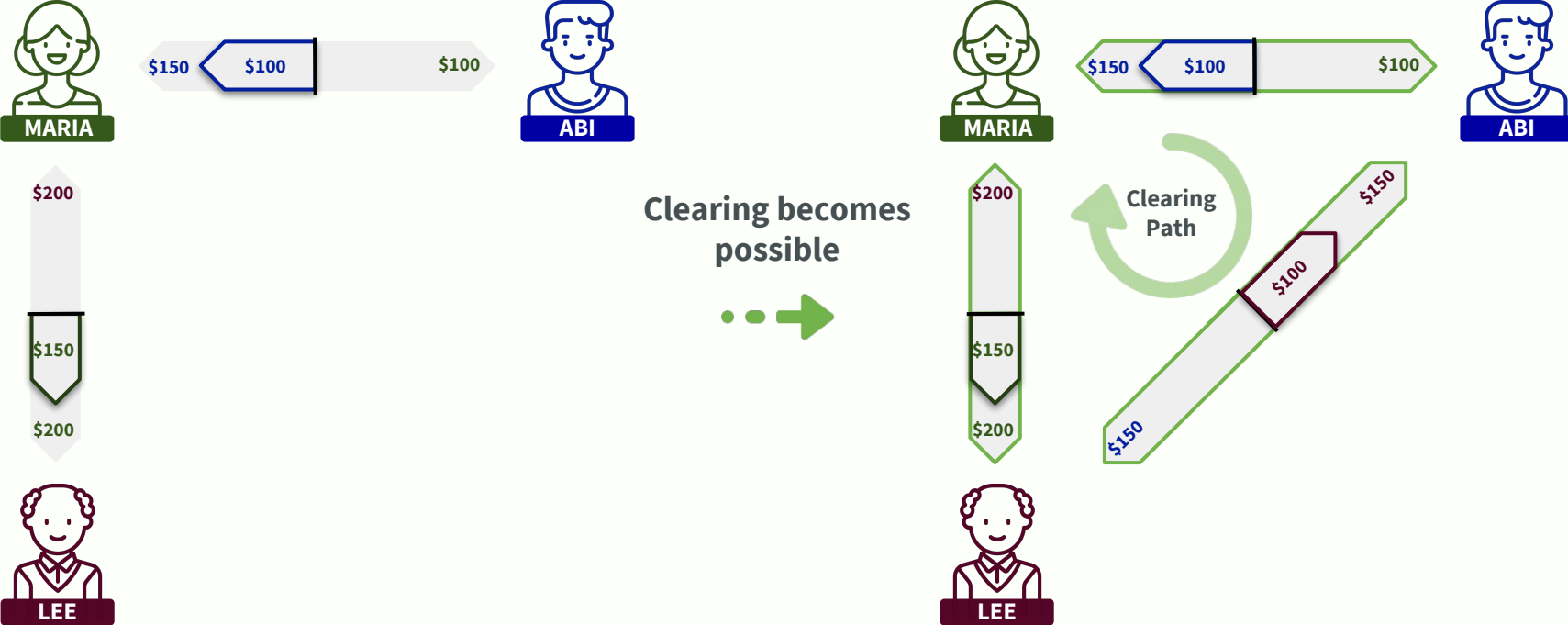
Clearing Path

As new users join the system, further clearing can occur. Sikoba's platform continuously and automatically finds clearing paths as new users join the system with the aim of reducing the sum of outstanding IOUs and hence, the amount of money needed. The more connections each member has, and the more they transact with each other, the more opportunities for clearing.
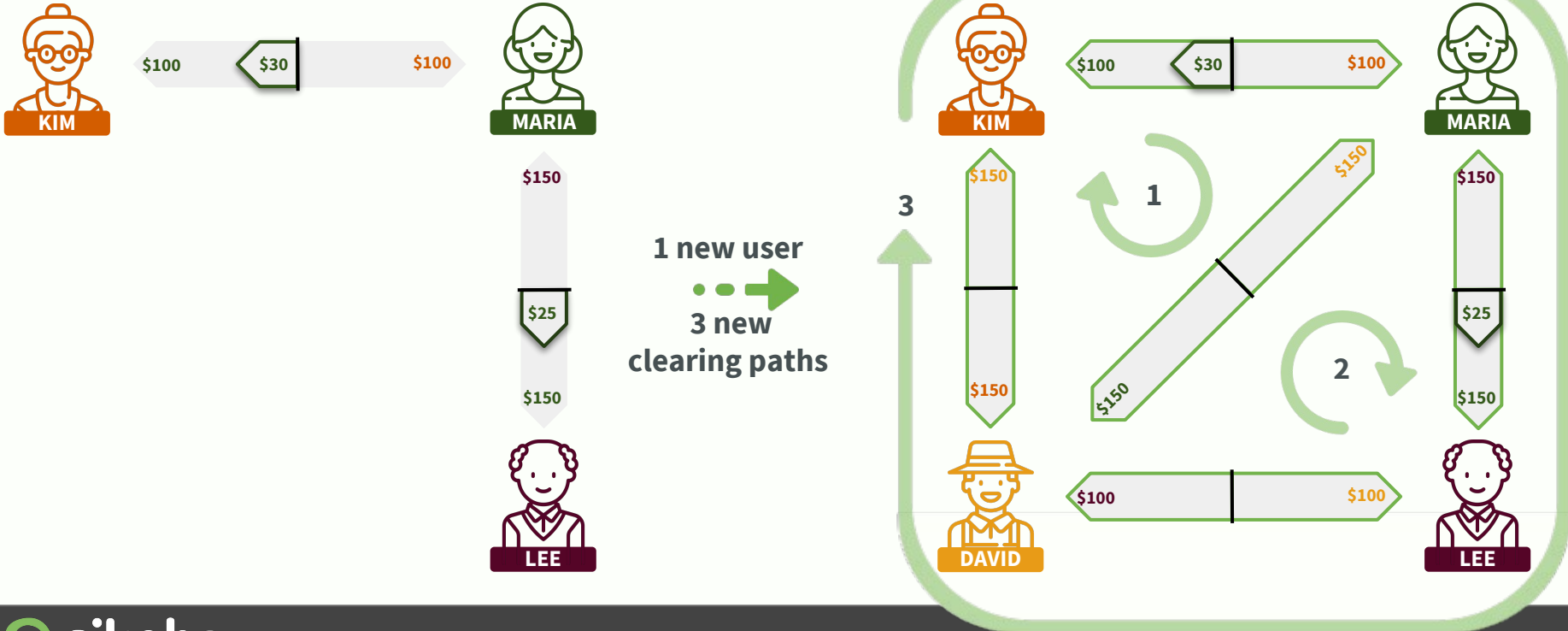
This introductory presentation covered the basic features of sikoba, which are relevant to all users. More advanced and business-specific functions are also being developed.

The sikoba platform is being created in partnership with Manas.Tech. The first internal release of the mobile app is scheduled in mid-March, we are therefore looking for early testers and reviewers.

The MVP is scheduled for release in June 2019, so we are also starting to look for future beta testers.

Potential **investors** and **business partners**, contact Alex Kampa: **ak@sikoba.com** : +352 691 46 85 81

To become a **tester, reviewer** or **product partner**, contact Nimisha Walji : **partners@sikoba.com**

For **community engagement**, contact Margareta Reshetar : **comms@sikoba.com**

For more information, visit our **website**, read our **medium** posts or follow us on **twitter**.